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| 10/804,619 | 03/19/2004 | Jin Feng | 306473.01 | 7852 |

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| EXAMINER |
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ALVESTEFFER, STEPHEN D

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| ART UNIT | PAPER NUMBER |
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2175

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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| | | | |
|------------------------------|--|------------------------------------|--|
| Office Action Summary | Application No. 10/804,619 | Applicant(s) FENG ET AL. | |
| | Examiner Stephen Alvesteffer | Art Unit 2175 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,6-9,11,13,14,26-28 and 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,6-9,11,13,14,26-28 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

This Office Action is responsive to the Amendment filed May 6, 2008. Claims 6, 8, 9, 25, and 28 are amended. Claims 2-5, 10, 12, 15-24, and 29 are cancelled. Claims 1, 6, and 25 are independent. Claims 1, 6-9, 11, 13, 14, 26-28, and 30 remain pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6-9, 11, 13, 14, 26-28, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Canon Kabushiki Kaisha (hereinafter Canon), European Patent Application EP 1 205 843 A, Walbeck et al. (hereinafter Walbeck), United States Patent 7,310,670, and Kageyama et al. (hereinafter Kageyama), United States Patent number 5,625,757.

Regarding claim 1, Canon teaches a system for use in client/server computing comprising: a client that interfaces with an applications program (see Canon paragraph [0104]; *"the user interface device may be a personal digital assistant that, in addition to the user interface application includes other applications or programs such as, for example, word processing, spreadsheet, calendar, diary and other similar applications"*), the user interface device is equivalent to the client, the user interface application is

equivalent to the applications program); a server in communication with the client that responds to a request from the applications program communicated to the server by the client for services available through said server (see Canon paragraph [0009]; "*The user interface device may be used with stand-alone processor-controlled machines such as printers, copiers, scanners etc. or may be used where a number of processor-controlled machines are coupled to a network such as a local or wide area network. In this case, the user interface device may communicate with a processor controlled machine either directly or via the network*"), wherein the server is a print server operable to service print requests from one or more client computers (see Canon paragraph [0090]; "*the communications control apparatus 25 of the processor-controlled machine with which the user interface device 12 is communicating forms a server for the user interface device 12*", the processor-controlled machine functions as the server; see also Canon paragraph [0009]; "*The user interface device may be used with stand-alone processor-controlled machines such as printers, copiers, scanners etc. or may be used where a number of processor-controlled machines are coupled to a network such as a local or wide area network*", the processor-controlled machine can be a printer), wherein the print requests are communicated via a first asynchronous communications channel established between the client print spooler and the server print spooler (see Canon paragraph [0079]; "*data will be communicated through the filter stack and each filter will process any data received from another filter, the network or the user that is of the type the filter is designed to process so that the user interface is updated in accordance with data received from the network (such as status messages indicated that the printer is*

busy or the job has been completed) and instructions input by the user... the data writer may be arranged to supply any data of a type that is intended solely for transmission to the network directly to the network manager so that it does not have to pass through the filter stack", messages that might be displayed to the user are sent through one communications channel to the filter stack. Data that are intended solely for transmission, such as print spooler data, would be sent through another communications channel that does not go through the filter stack; See also Canon paragraph [0085]; *"the user interface application may, from time to time, receive messages from the network in relation to a job or function that the user has instructed a processor-controlled machine to carry out"*, this shows bi-directional asynchronous behavior, where the client listens for messages from the server, while the server also has a listener that awaits messages and requests from the client); and a user interface manager that receives a user interface message from the server by means of a second asynchronous communications channel established between the server and the client (see also Canon paragraph [0085]; *"the user interface application may, from time to time, receive messages from the network in relation to a job or function that the user has instructed a processor-controlled machine to carry out"*, this shows bi-directional asynchronous behavior, where the client listens for messages from the server, while the server also has a listener that awaits messages and requests from the client), wherein the user interface message is language neutral, and wherein the user interface manager includes a custom message interpreter operable to convert the language neutral message into a language specific message, and wherein the language specific

message is displayed to a user via the client (see Canon paragraph [0008]; *"This separation of the functionality of the processor-controlled machine from its user interface also facilitates adaptation of processor-controlled machines to meet 35 local requirements, for example to enable different language versions of a user interface to be provided for different language speaking countries while still providing a generic processor-controlled machine"*), the device descriptions are language neutral, that is, a generic format of device descriptions is transmitted that is interpreted by a plurality of different clients in a plurality of different ways).

Canon does not explicitly teach the second asynchronous communications channel being distinct from the first asynchronous communications channel. Walbeck teaches allocating separate asynchronous communications channels to facilitate the flow of data traffic (see Walbeck column 2 lines 10-28; *"Support for streaming data or asynchronous data is provided by allocating time slots on the network and allowing two intelligent nodes to talk directly to each other as arbitrated by the active network server. The active network server can also allocate separate data channels such that large amounts of data traffic can flow independently of the operations of the main network"*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to communicate asynchronous data in separate distinct communications channels in order to facilitate the flow of data between the client and server. Canon suggests separating the asynchronous data channels in paragraph [0079], *"data will be communicated through the filter stack and each filter will process any data received from another filter, the network or the user that is of the type the filter is designed to*

process so that the user interface is updated in accordance with data received from the network (such as status messages indicated that the printer is busy or the job has been completed) and instructions input by the user... the data writer may be arranged to supply any data of a type that is intended solely for transmission to the network directly to the network manager so that it does not have to pass through the filter stack", so that messages that might be displayed to the user are sent through one communications channel to the filter stack, while messages that are not intended for display to the user are sent through a separate communications channel that does not go through the filter stack.

Neither Canon nor Walbeck explicitly discloses a "client print spooler" or a "server print spooler". However, the use of print spoolers in a client/server printing environment was well known in the art at the time the invention was made (see Kageyama Figure 3 and column 16 lines 35-41; *"The printing system comprises: the WS (11) and PCs (12 and 13) provided as clients; a print server 300 having therein the print/spooler control servers (15, 16) and distributed printing management server 14 shown in FIG. 1; the network printer 1A which is directly connected to the LAN; printers 17, 18-1, and 18-2 which are connected to the print server 300; and the network 10"*). Canon teaches the use of a printer connected to a client/server environment (see Canon paragraph [0009]; *"The user interface device may be used with stand-alone processor-controlled machines such as printers, copiers, scanners etc. or may be used where a number of processor-controlled machines are coupled to a network such as a local or wide area network. In this case, the user interface device may communicate*

with a processor controlled machine either directly or via the network”). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide print spooling as taught by Kageyama in the client/server printing environment taught by Canon/Walbeck so that changes made to a document while it is being printed will not interrupt the printing process.

Claims 6 and 7 recite a system having substantially the same limitations as the system of claim 1. Therefore, claims 6 and 7 are rejected under the same rationale.

Regarding claim 8, Canon/Walbeck/Kageyama teaches that the client user interface manager converts a globally unique identifier from the print server to a user understandable message on said display (see Canon paragraph [0026]; *“The user interface application of the user interface device 12 then maps these functions on to possible user interface widgets each of which is associated with the program code necessary to generate the corresponding widget on the display screen”*, the resource identifiers must inherently be globally unique or the system would have no way to match the correct message with the identifier).

Regarding claim 9, Canon/Walbeck/Kageyama teaches that the print spooler receives data from the applications program for transmission to the print server via the first asynchronous communications channel and also wherein the print server communicates a message to the user interface manager via the second asynchronous communications channel upon receipt of the print request from the application program (see Kageyama Figure 3 and column 16 lines 35-41; *“The printing system comprises: the WS (11) and PCs (12 and 13) provided as clients; a print server 300 having therein*

the print/spooler control servers (15, 16) and distributed printing management server 14 shown in FIG. 1; the network printer 1A which is directly connected to the LAN; printers 17, 18-1, and 18-2 which are connected to the print server 300; and the network 10"; see also Canon paragraph [0079]; "the data writer may be arranged to supply any data of a type that is intended solely for transmission to the network directly to the network manager so that it does not have to pass through the filter stack", messages that might be displayed to the user are sent through one communications channel to the filter stack. Data that are intended solely for transmission, such as print spooler data, would be sent through another communications channel that does not go through the filter stack; See also Canon paragraph [0085]; "the user interface application may, from time to time, receive messages from the network in relation to a job or function that the user has instructed a processor-controlled machine to carry out", this shows bi-directional asynchronous behavior, where the client listens for messages from the server, while the server also has a listener that awaits messages and requests from the client).

Regarding claim 11, Canon/Walbeck/Kageyama teaches that the user interface message is a language neutral message sent by the print server through the second asynchronous communications channel based on status of a print job being serviced by the print server (see Canon paragraph [0008]; "*This separation of the functionality of the processor-controlled machine from its user interface also facilitates adaptation of processor-controlled machines to meet 35 local requirements, for example to enable different language versions of a user interface to be provided for different language speaking countries while still providing a generic processor-controlled machine*", the

device descriptions are language neutral, that is, a generic format of device descriptions is transmitted that is interpreted by a plurality of different clients in a plurality of different ways; see also Canon paragraph [0028]; “*displaying information regarding the document to be printed and details of the manner of printing (the printer “job info”)*”).

Regarding claim 13, Canon/Walbeck/Kageyama teaches that the user interface manager interprets the message and loads an executable component that responds to receipt of a said message based on the contents of said message (see Canon paragraph [0006]; “*The user interface device may generate the user interface itself from the device description or may be couplable to a separate user interface generator that generates the user interface from the device description and then supplies it to the user interface device*”).

Regarding claim 14, Canon/Walbeck/Kageyama teaches that the executable component accesses resources used by the executable component to display a message on a display monitor (see Canon paragraph [0006]; “*The user interface device may generate the user interface itself from the device description or may be couplable to a separate user interface generator that generates the user interface from the device description and then supplies it to the user interface device*”).

Claims 25-28 and 30 recite a computer readable medium having substantially the same limitations as the system of claims 6-9, 13, and 14. Therefore, the claims are rejected under the same rationale.

Response to Arguments

Applicant asserts that neither Kageyama nor Canon nor Walbeck, alone or together, disclose, teach, or suggest the Applicants' claimed features: a "client including a client print spooler", a "server including a server print spooler", and communicating print requests via an asynchronous channel between the client print spooler and the server print spooler. The examiner respectfully disagrees.

The processor-controlled machines taught by Canon may be stand-alone or attached to a network. They also may be stand-alone printers, or printers attached to a network (see Canon paragraph [0009]; "*The user interface device may be used with stand-alone processor-controlled machines such as printers, copiers, scanners etc. or may be used where a number of processor-controlled machines are coupled to a network such as a local or wide area network. In this case, the user interface device may communicate with a processor controlled machine either directly or via the network*"). Examiner understands a client printer to be a printer that is directly connected to the machine the user is working on. The stand-alone processor-controlled machines taught by Canon qualify as client printers. Examiner further understands a print server to be a printer accessed by a user that is not connected to the user's machine. The processor-controlled machines coupled to a network taught by Canon qualify as print servers (see Canon paragraph [0090]; "*the communications control apparatus 25 of the processor-controlled machine with which the user interface device 12 is communicating forms a server for the user interface device 12*"). A printer can

also be both a client and a server, depending on how it is used in relation to the network.

Kageyama is only relied upon for its **explicit** teaching of a print spooler. It is understood by Examiner that a print spooler is merely the software that controls the print jobs of a printer. All printers inherently have some type of print spooler associated with them. Therefore, the both the client printer and the server printer taught by Canon have print spoolers.

Examiner understands asynchronous communication to be communication that is performed by passing messages between devices (i.e. sending a message and waiting for a response). This is different from synchronous communication, where information is processed in real-time. Canon describes asynchronous communication between client and server printers (see Canon paragraph [0079]; *“data will be communicated through the filter stack and each filter will process any data received from another filter, the network or the user that is of the type the filter is designed to process so that the user interface is updated in accordance with data received from the network (such as status messages indicated that the printer is busy or the job has been completed) and instructions input by the user... the data writer may be arranged to supply any data of a type that is intended solely for transmission to the network directly to the network manager so that it does not have to pass through the filter stack”*; see also Canon paragraph [0085]; *“the user interface application may, from time to time, receive messages from the network in relation to a job or function that the user has instructed a*

processor-controlled machine to carry out"). Walbeck is only relied upon for his teaching of a second asynchronous channel.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Kemp et al., United States Patent Application Publication 2002/0078160, Printing over the internet

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Alvesteffer whose telephone number is

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(571)270-1295. The examiner can normally be reached on Monday-Friday 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Bashore can be reached on (571)272-4088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Stephen Alvesteffer
Examiner
Art Unit 2175

/S. A./
Examiner, Art Unit 2175

/William L. Bashore/
Primary Examiner, Art Unit 2175